

# High Performance Schools In Kentucky

Department for Energy  
Development and Independence  
Division of Renewable Energy and  
Energy Efficiency



# Overview



ENERGY STAR Program for Schools



Kentucky Energy Efficiency Program for Schools (KEEPS)



National Energy Education Development Project (NEED)



Green and Healthy Schools Program

# High Performance Schools

- High performance schools join together the very best of today's design strategies and building technologies.
- Building Blocks
  - Acoustic Comfort
  - Commissioning
  - Daylighting
  - Durability
  - Energy Analysis Tools
  - Energy-Efficient Building Shell
  - Safety and Security
  - Life Cycle Cost Analysis
  - Environmentally Preferable Materials and Products
  - High-Performance Electric Lighting
  - High-Performance HVAC
  - Renewable Energy
  - Thermal Comfort
  - Visual Comfort
  - Superior Indoor Air Quality
  - Water Efficiency
  - Site Planning

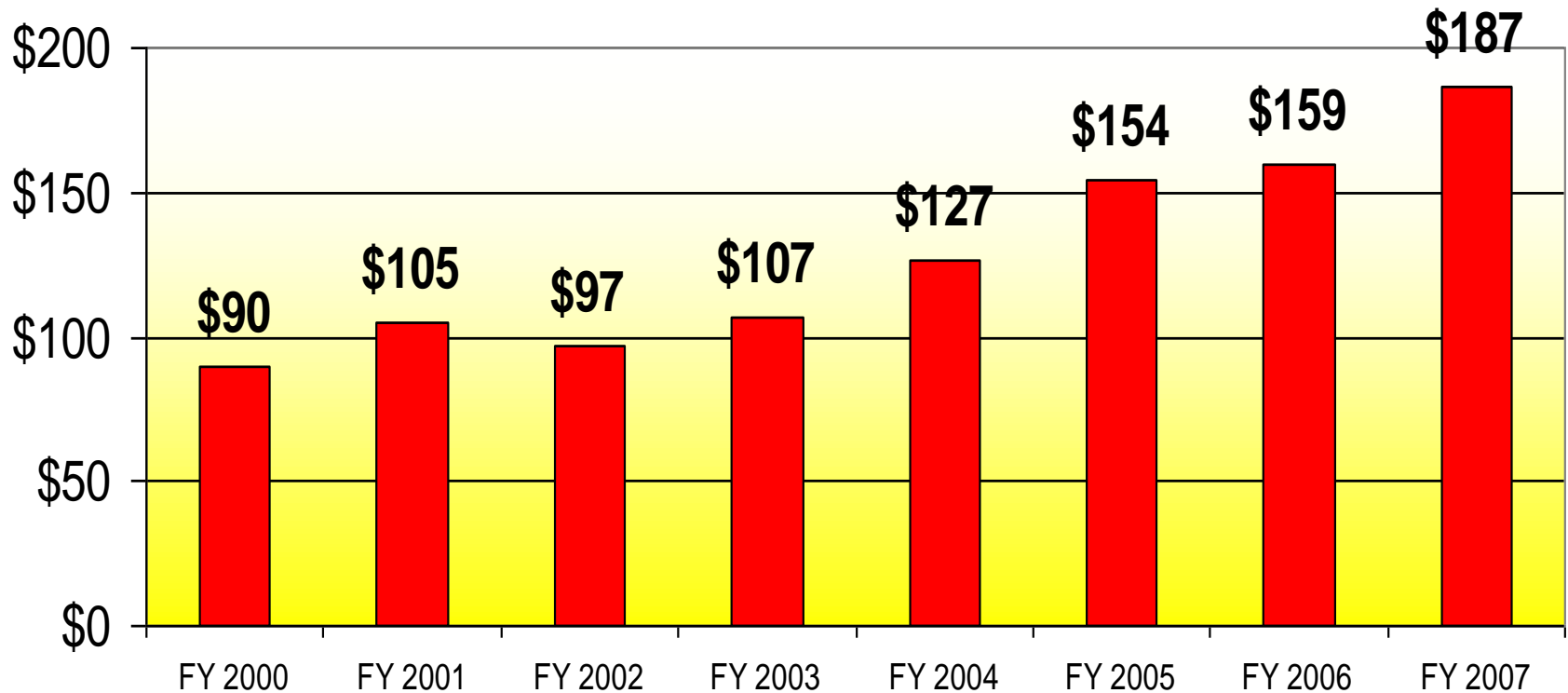
# High Performance Schools

## Why bother? Why build better than code?

- An improved learning environment for better performing students
- Increased average daily attendance
- Increased teacher satisfaction and retention
- Protection of natural resources
- Opportunities to use facility as a teaching tool
- Reduced operating costs

# K-12 Energy Expenditures

\$ million



Energy cost

per student

\$159.00

\$185.00

\$170.00

\$188.00

\$221.00

\$266.00

\$274.00

\$319.00

Total Energy Expenditures **Up 108 percent** since FY 2000

# High Performance Building Guidelines



- **ENERGY STAR CERTIFICATION**  
ENERGY STAR PROGRAM

- **HIGH PERFORMANCE BUILDINGS**  
SUSTAINABLE BUILDINGS  
INDUSTRY COUNCIL (SBIC)



- **Leadership in Energy and Environmental  
Design (LEED) CERTIFICATION**  
US GREEN BUILDINGS COUNCIL (USGBC)



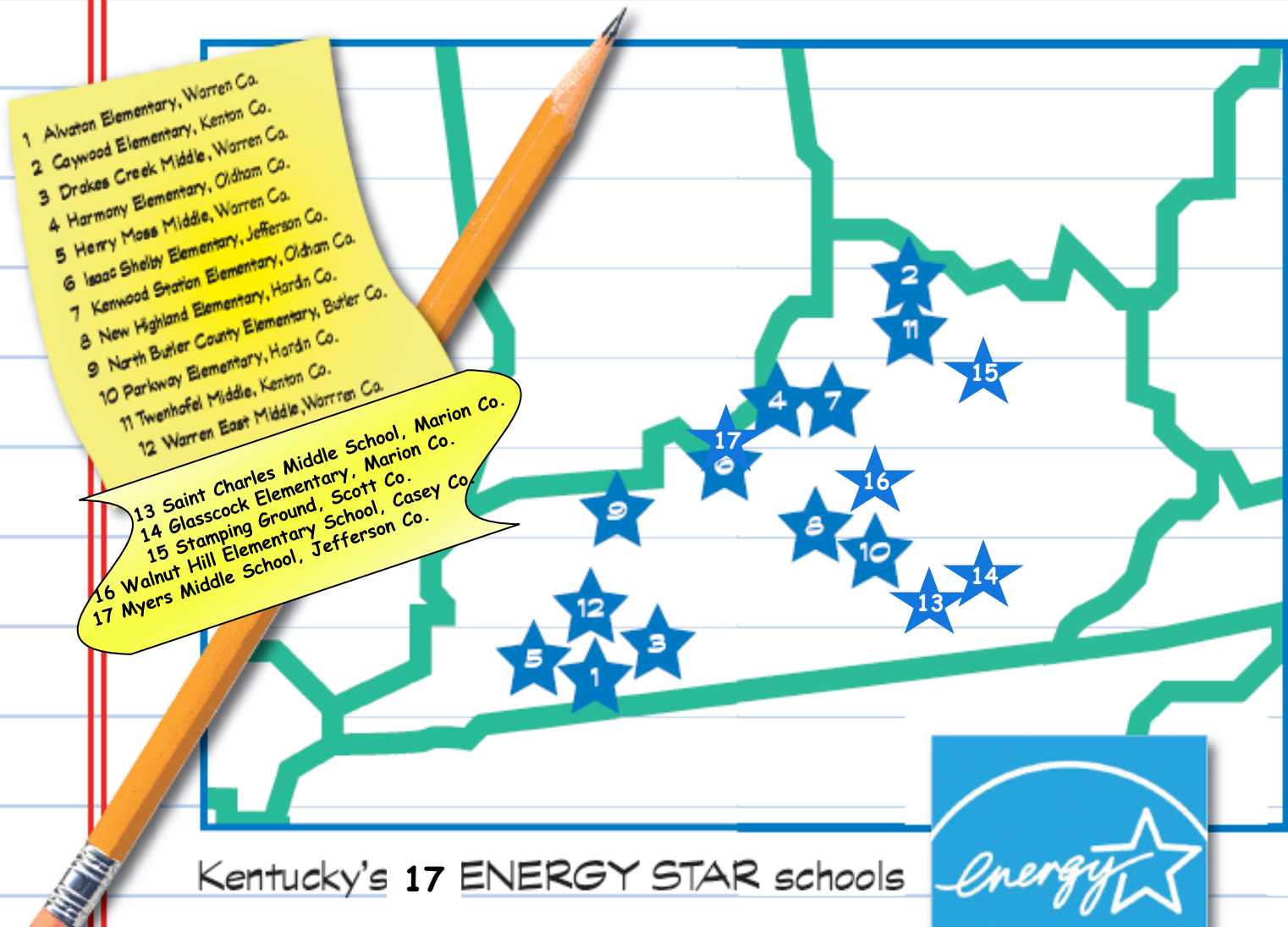
# ENERGY STAR Buildings



**ENERGY STAR is a government-backed program helping businesses and individuals protect the environment through superior energy efficiency.**

- **Focus is to improve building energy efficiency**
- **Establishes benchmarks, certifies performance on energy use**
- **Ratings validated by third party professional engineer**

# ENERGY STAR Schools in Kentucky



Kentucky's 17 ENERGY STAR schools



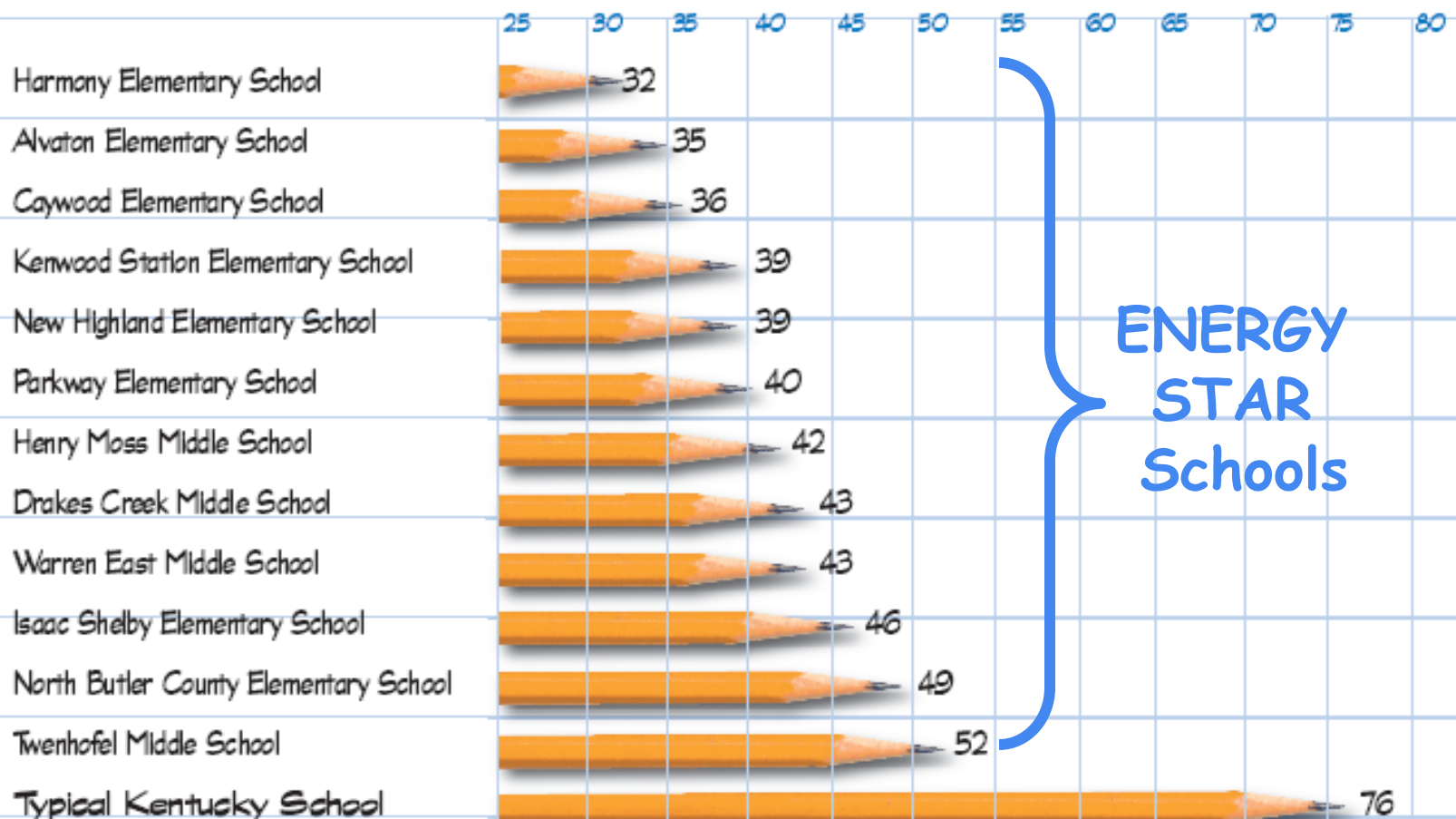
# ENERGY STAR Schools in Kentucky

How does your school rate?



ENERGY STAR Schools

kBtu/sf/year



# Kentucky Energy Efficiency Program for Schools



KEEPS offers a complete package of tools, training, coaching and expertise to assist school districts in developing a systems approach to energy management.

# KEEPS

- Helps Kentucky school districts reduce energy use & save money - ENERGY STAR 7-step program
- Emphasizes the benefits of proactive energy management & responsible environmental stewardship
- Educates school administrators and facilities managers on how their actions affect energy consumption
- HB 2 - 2008 Legislation: All public school districts be enrolled into KEEPS by January 2010.



# KEEPS Impact

## ***Bullitt County School District***

- **07 – 08 Over \$246,000 in Avoided Costs**  
7 percent of total energy costs for the year

## ***Kenton County School District***

- **07 – 08 Over \$284,000 in Avoided Costs**  
6.5 percent of total energy costs for the year



# Kentucky Energy Education Programs



## Kentucky NEED



## Kentucky Green and Healthy Schools

# Kentucky NEED Project



Kentucky NEED promotes an energy conscious and educated society by creating effective networks of students, educators, business and community leaders to design and deliver objective, multi-sided energy education programs.

# NEED and your Schools

- Teachers and students receive training and materials
- Support from the Kentucky NEED staff
- Service learning projects
- Youth Awards for Energy Achievement
- Recognition at the state and national level

# Kentucky NEED Schools

- In 2008
  - 16 NEED school workshops conducted
  - 436 teachers trained
  - 38,848 students supported
  - Two Kentucky schools nationally recognized



# Kentucky Green and Healthy Schools

A banner for the Kentucky Green & Healthy Schools website. It features a green background with a white path. On the left, a diamond-shaped logo contains icons of a sun, a river, a house, and a person. In the center, a person is riding a bicycle. On the right, a yellow school bus is driving. The text "KENTUCKY Green & Healthy Schools" is on the left, and "SCHOOL BUS" is on the side of the bus.

[Home](#) [Getting Started](#) [Exploring your School Environment](#) [Building a New School](#) [Help / FAQ](#) [Login](#)

## Home

**What is a Green & Healthy School?**

**Why Become a Green & Healthy School?**

**Taking Action**

**Keeping the School Green & Healthy**

**Participating Schools**

**Awards Process**

**Contact Us**

[Printer Friendly](#)

**What if ....** we could have schools that would help reduce such illnesses as allergies and asthma and therefore improve attendance?

**What if....** we could have schools that helped improve the cardiovascular health of our children and reduce obesity?

**What if....** we could have schools that protect and conserve the environment for the future use of the children who go to those schools now?

**What if....** we could teach our children to take personal responsibility for the environments in which they live and learn?

**What if....** our children could learn to think critically and communicate effectively as they work together to solve problems?

**What if....** our children could learn the core content as they carry out rigorous, relevant research?

**Good News!!!** With today's technology and knowledge, we can, in

# How does G&H work

- **Kids conduct school inventories in eight areas.**

energy	hazardous chemicals
indoor air quality	green spaces
water	solid waste
health and nutrition	transportation
- **Based on what they find, they design and carry out improvement projects in each area.**
- **Depending on how many improvement projects they complete, the school receives recognition awards.**



# Green and Healthy Schools

- 82 public and private schools enrolled
- Winner of National Excellence in Green Building Curriculum Recognition Award



# Program Advisors



Lee Colten – ENERGY STAR Program Manager DEDI



Cam Metcalf – Executive Director, KPPC – Kentucky's Resource Center for Environmental Sustainability



John Noel – Executive Director, Kentucky School Plant Management Association



Karen Reagor – State Program Director, KY NEED Project



Jane Eller – Executive Director – G&HS